UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,251	11/04/2003	Mark Stewart Schroder	839-1496	9386

30024 7590 12/09/2004

NIXON & VANDERHYE P.C./G.E.
1100 N. GLEBE RD.
SUITE 800
ARLINGTON, VA 22201

EXAMINER	
RODRIGUEZ, PAMELA	

ART UNIT	PAPER NUMBER
3683	

DATE MAILED: 12/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/700,251	SCHRODER ET AL.	
	Examiner	Art Unit	
	Pam Rodriguez	3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,10,14,15 and 18* is/are rejected.

7)☒ Claim(s) *8,9,11-13,16,17,19 and 20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *05/05/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The IDS filed May 5, 2004 has been received. However, the listing of the patent application number of the reference is not a valid listing for an IDS and thus has been lined through. Further, at the time this office action was issued, the examiner did not have access to the cited reference and thus the contents of the named application have not yet been reviewed in any context.

Claim Rejections - 35 USC § 112

2. Claims 10 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 recites the limitation "shroud ***block***" in the last two lines of the claim. There is insufficient antecedent basis for this limitation in the claim. The term was previously referenced as a "shroud body" in the preceding claims.

Claim 18 recites the limitation "shroud ***block***" in the last two lines of the claim. There is insufficient antecedent basis for this limitation in the claim. This term too was previously referenced as a "shroud body" in the preceding claims.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,639,211 to Bintz.

Regarding Claim 1, Bintz discloses a damper system for a stage of a turbine (see Figure 1) comprising: a shroud 14 having a first surface defining in part a hot gas path through the turbine (see Figure 1 and the side of shroud 14 closest to the rotor 36); a shroud body 20 for supporting said shroud; a damper block 16 (wherein element 16 is readable as a damper block in that it supports and thus, effectively damps the outer shroud block 20 at least to some extent) having at least three projections (30/28, 26/24/44, & the leftmost end of element 16) raised from a surface thereof and engaging a backside surface of said shroud (see Figure 1 and the side of shroud 14 nearest element 47) opposite said first surface; and a damping mechanism 12 carried by said shroud body (see Figure 1, where damper 12 is carried by body 20 at least through damper block 16) and connected to said damper block for applying a load to said damper block and said shroud through the engagement of the projections with the backside surface of the shroud thereby damping vibratory movement of said shroud (see column 2 lines 28-57).

Regarding Claim 2, Bintz further discloses that two of said projections 30/28 & 26/24/44 lie adjacent a forward edge of said damper block surface in an upstream direction relative to the direction of flow of hot gas through the turbine (see Figure 1) and a third projection of said at least three projections (see Figure 1 and the leftmost edge of element 16) lies adjacent a rearward edge of said damper block surface intermediate sides of said damper block (see Figure 1).

Regarding Claim 3, Bintz discloses that the two projections 30/28 & 26/24/44 are symmetrically located relative to opposite sides of said damper block 16 (see Figure 1) and said third projection is asymmetrically located relative to said opposite sides (see Figure 1).

Regarding Claim 4, Bintz discloses that the damper block surface is spaced from the backside surface of the shroud 14 by the projections (see Figure 1) to provide a thermal insulating layer between the shroud 14 and the damper block 16 (see Figure 1, wherein at least to some extent, given the air gaps present between the damper block and the shroud, some thermal insulation would occur).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 5 and 14-15 are rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 5,639,211 to Bintz in view of U.S. Patent No. 6,726,448 to McGrath et al.

The applied McGrath et al reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer

in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Regarding Claim 5, Bintz discloses most all the features of the instant invention as applied above, except for the shroud being formed of a ceramic material and the damper block being formed of a metallic material.

Regarding the shroud, McGrath et al disclose a damper assembly having a shroud 10 similar to that of Bintz being formed of a ceramic material (see the abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the shroud of Bintz to be formed of a ceramic material as taught by McGrath et al as a matter of design preference, dependent upon the operating conditions of the turbine. As long as the material of the shroud was able to withstand excessive heat exposure, the type of material used to form the shroud is arbitrary.

Regarding the damper block being formed of a metallic material, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the damper block of Bintz, as modified, to be formed of a metallic material, again, as a matter of design preference, dependent upon the intended operating environment of the turbine. As long as the material of the damper block is

able to effectively dampen the assembly and withstand the heat exposure created in the turbine, the type of material used to form the damper block is arbitrary.

Regarding Claim 14, see Claims 1 and 5 above and further note spring 12.

Regarding Claim 15, Bintz discloses a housing for the spring 12 (see Figure 1 and the walls 24 and 50 of the shroud and damping block which form a housing for the spring) in communication with a cooling medium for cooling the spring (wherein the cooling medium is readable as the air located in the air gap between the damper block 16 and the shroud 14).

8. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,639,211 to Bintz.

Regarding Claim 6, Bintz discloses most all the features of the instant invention as applied above and further including that the damping mechanism includes a spring 12 and a member 50 biased by the spring to apply the load to the damper block 16 (see column 3 lines 14-25).

However, Bintz does not disclose that the member is a piston.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the biased member of Bintz to be a piston as an alternate means of applying a load to the damper block. As long as some structure can act to apply the load to the damper block through the effects of the spring, the means used to do so is arbitrary.

Regarding Claim 7, Bintz discloses a housing for the spring 12 (see Figure 1 and the walls 24 and 50 of the shroud and damping block which form a housing for the

spring) in communication with a cooling medium for cooling the spring (wherein the cooling medium is readable as the air located in the air gap between the damper block 16 and the shroud 14).

Allowable Subject Matter

9. Claims 8, 9, 11-13, 16, 17, 19, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claims 10 and 18 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,113,349 to Bagepalli et al., U.S. Patent No. 4,621,976 to Marshall et al., U.S. Patent No. 5,346,362 to Bonner et al., and U.S. Patent No. 4,245,954 to Glenn all disclose damper systems for a stage of a turbine having damping mechanisms similar to applicant's.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pam Rodriguez whose telephone number is 703-308-3657. The examiner can normally be reached on Mondays 5 am -3:30 pm and Tuesdays 5 am -11 am.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Bucci can be reached on 703-308-3668. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Pam Rodriguez
Primary Examiner
Art Unit 3683
12/6/04

Pr
12/06/04
3.